

ABSTRACT

A holographic record erasing method and a holographic recording and reproducing apparatus in which data reproduction can be disabled without irradiating a holographic recording medium with a high energy erasing beam or physically destroying the medium. A holographic recording medium 16 in a holographic recording and reproducing apparatus 10 has a recording layer 17 formed of two split recording layers 17A and 17B, and a crosstalk layer 17C is provided therebetween.

The crosstalk 17C layer still has photosensitivity after completion of multiplex recording of data holograms 24 in the recording layer 17. An object beam IOb for erasing and a reference beam IRe for erasing each having a large beam diameter are projected onto the layer to form a crosstalk hologram 26 having low selectivity. Hence, when a reproduction beam is projected onto the data holograms 24, a diffraction beam is always generated also from the crosstalk hologram 26.